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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,602	11/07/2001	John Gardner Fischer	DP-305705	3764

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DELPHI TECHNOLOGIES, INC.
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EXAMINER

RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 08/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,602

Applicant(s)

FISCHER ET AL.

Examiner

John Rivell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/7/01 (appl), 6/2/03 (IDS).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claims 1-20 are pending.

The drawings are objected to as set forth on the attached Draftsperson's Review PTO-948. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-8, 10-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings (2,206,356) in view of Hoover (4,964,391 cited by applicant). The patent to Hutchings discloses "a check valve...comprising: a valve housing (13) adapted to be disposed in an outlet member (flow conduit 9)...; a valve seat (15) formed on said valve housing; a valve member (11, 16) disposed in said valve housing and having a closed position (fig. 2) to engage said valve seat to prevent (fluid) from flowing through the outlet member and an open position (fig. 3) to allow (fluid) to flow through the outlet member; and said valve member having at least one outlet port (19) a predetermined dwell distance from said valve seat (note in particular figs. 2 and 3 wherein the left most edge of opening(s) 19 is physically located to the right of the seal

20. Thus during opening movement of the valve, to the left, an amount of time must pass for the left, leading edge of the opening(s) 19 to physically reach the valve seat 15 thus providing a "dwell distance" as claimed and disclosed) when said valve member is in said closed position and allowing fluid flow past said valve seat when said valve member is in said open position" as claimed in claim 1.

Thus Hutchings discloses all the claimed features with the exception of having utility in a "fuel pump of a vehicle" thus controlling "fuel flow".

The patent to Hoover discloses that it is known in the art to employ a check valve device 28, located in the outlet conduit of a fuel pump 22 of a vehicle leading to an engine 26 of the vehicle for the purpose of preventing backflow of fuel from the engine to the fuel pump. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ the device of Hutchings as a check valve device in the outlet conduit of a fuel pump feeding fuel to an engine of a vehicle for the purpose of preventing backflow of fuel from the engine to the fuel pump as recognized by Hoover.

Regarding claims 13 and 20, the above applies equally as well.

Regarding claim 2, in Hutchings "said valve member (11, 16) has a hub (16) and a stem (11) extending axially from said hub" as claimed.

Regarding claim 3, in Hutchings "said valve housing (13) has a passageway (12) extending axially therethrough to receive said stem (11)" as claimed.

Regarding claims 5 and 18, in Hutchings "said valve housing (13) has an enlarged opening at one end (at the right end) of said passageway (12)" as claimed.

Regarding claims 6 and 18, in Hutchings "said valve member (11) has a flange (17) at one end of said stem opposite said hub (16) and disposed in said enlarged diameter portion" as claimed.

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Regarding claim 7, in Hutchings "said valve member (tubular member 11) has a flow port (the interior bore) extending axially therein" as claimed.

Regarding claim 8, in Hutchings "wherein said at least one outlet port (19) extends radially in said valve member (11) and communicates with said flow port" as claimed.

Regarding claims 10 and 16, in Hutchings "said valve member (at 16) has an annular groove (for receiving seal 20) extending radially therein" as claimed.

Regarding claims 11 and 17, in Hutchings "a seal (20 is) disposed in said groove for contacting said valve seat (15) when said valve member is in said closed position" as claimed.

Regarding claims 12 and 19, in Hutchings "a spring (21 is) disposed about said valve member (11) to urge said seal (20) and said valve member (11) toward said valve seat (15)" as claimed.

Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Hoover as applied to claims 1-3, 5-8, 10-13 and 16-20 above, further in view of Wynn (4,129,145 cited by applicant). The patent to Hutchings, as modified by Hoover, discloses all the claimed features with the exception of having "a flow tube... adjacent said valve seat". The patent to Wynn discloses that it is known in the art to employ "a flow tube", read as the housing portion at reference numeral 12 of fig. 1A immediately downstream of the seat portion of the housing, in which is received the valve head 28 at a full open position as shown in fig. 1A for the purpose of providing a uniform annular channel for fluid flow and thus precluding oscillations of the valve member in a manner as described by applicant. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hutchings, as modified by Hoover, a downstream "flow tube" attached to the housing 13 of Hutchings to receive the valve head 16 thereof when in a full open position for the

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purpose of providing a uniform annular channel for fluid flow and thus precluding oscillations of the valve member as recognized by Wynn.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Hoover as applied to claims 1-3, 5-8, 10-13 and 16-20 above, further in view of Clifton. The patent to Hutchings, as modified by Hoover, discloses all the claimed features with the exception of having "a metered shape" valve port 19. The patent to Clifton discloses that it is known in the art to employ a metering shaped valve port 11 in a reciprocating piston type valve device for the purpose of metering fluid flow through the valve device dependent on valve position. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hutchings, as modified by Hoover, a metered shaped valve port for port 19 for the purpose of metering fluid flow through the valve dependent on valve position as recognized by Clifton.

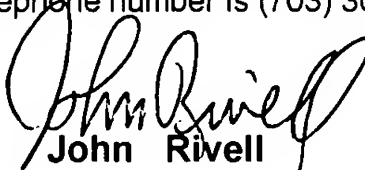
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Monday -Thursday between 6:30am and 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Bertsch can be reached on (703) 308-0975. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

j.r.
July 31, 2003


John Rivell
Primary Examiner
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